

CLAIMS

What is claimed is:

1. A method for analyzing image information, comprising the steps of:
 - 5 selecting at least one characteristic of a color space; and
 - determining the selected characteristic for a displayed image;
 - wherein the determined image characteristic can be used to identify the image.
2. The method of Claim 1, further comprising the steps of:
 - 10 determining the image's color distribution;
 - determining the image's color space usage;
 - determining the image's color range distance; and
 - determining the image's image size;
 - wherein the determined color distribution, color space usage, color range distance,
 - 15 and image size can be used to identify the image.

3. The method of Claim 2, wherein the determination of the image's color distribution further comprises the steps of:

defining all possible display ranges for a pixel of a selected color space;

dividing the ranges into groups of N elements, wherein N is the total number of desired

5 discrete finger print elements;

determining the color value for each pixel in the image; and

determining the number of expressed color values in each group of N elements for which there is at least one pixel with a corresponding color value.

10 4. The method of Claim 3, further comprising the step of, for each group of N elements, dividing the number of expressed color values of the group with the total number of color values for all groups.

5. The method of Claim 3, further comprising the step of combining a plurality of color
15 values as a single expressed color value.

6. The method of Claim 5, wherein the plurality of color values are combined by grouping colors that cannot be visually distinguished.

7. The method of Claim 5, wherein, in an RGB color space, the plurality of color values are combined by

truncating a specified number of the lower bits representing one or more component colors of a first color value;

5 determining the value of the component colors of the first color value after the truncation; and

combining the first color value with any other color values whose color components are equal in value to the value of the component colors of the first color value after the truncation.

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8. The method of Claim 2, wherein the determination of the image's color space usage further comprises the step of, for each color range defined in the image's color space, counting the number of pixels that use a color element in the color range.

15 9. The method of Claim 8, further comprising the step of, for each specific color range of the color space, dividing the total number of pixels using a color element in the color range by the total number of pixels used in the image to generate the percentage of usage for each specific color range of the color space.

10. The method of Claim 2, wherein the determination of the image's color range distance further comprises the steps of:

determining the distance between the two farthest points of the color element for each color element of a color range defined in the image's color space; and

5 averaging the total distances for all color elements in the color range.

11. The method of Claim 2, wherein the determination of the image's image size further comprises the step of determining the width and height of the image.

10 12. The method of Claim 1, further comprising the step of comparing at least one determined image characteristic of a first image with the determined image characteristic of at least a second image.

13. The method of Claim 12, further comprising the step of determining whether the first
15 image is identical to the compared second image.

14. The method of Claim 1, wherein the determination of the selected characteristic for a displayed image is computer-implemented.

15. A method for comparing a plurality of images, comprising the steps of
selecting a plurality of characteristics of a color space;

determining the selected characteristics for a first displayed image;

determining the selected characteristics for at least a second displayed image;

- 5 comparing the determined characteristics of the first and second displayed images; and
using a set of predefined criteria to determine whether the determined characteristics of
the first displayed image match the determined characteristics of the at least a
second displayed image.

- 10 16. The method of Claim 15, wherein the set of predetermined criteria includes the
percentage of identical characteristics.

17. A method for identifying a copy of an image, comprising the steps of:

identifying a first image;

- 15 storing identification information for the first image;

identifying a second image; and

comparing identification information for the second image with the stored identification
information for the first image;

wherein if a predetermined set of criteria is met, the second image is identical to the first
20 image.

18. The method of Claim 17, wherein the first and second images are compared
manually.

19. The method of Claim 17, wherein the first and second images are compared automatically.

5 20. The method of Claim 17; wherein the first and second images are retrieved from an electronic medium.

21. The method of Claim 20, wherein the first and second images are manually or automatically retrieved from the electronic medium.

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22. The method of Claim 21, further comprising the step of using a search engine to locate the first or second image from an electronic network.

23. The method of Claim 21, further comprising the step of using a spider to locate the
15 first or second image from an electronic network.

24. The method of Claim 23, wherein the spider is configured to identify any located images.

25. An article of manufacture embodying a program of instructions executable by a computer, the program of instructions including instructions for:

locating a second image from an electronic network;

determining selected characteristics of the second image;

5 comparing the selected characteristics of the second image with selected

characteristics of a first image; and

determining whether the first and second images are identical based upon the

comparison of selected characteristics.

10 26. The article of manufacture of Claim 25, further comprising means for providing notification of identical first and second images.

27. The article of manufacture of Claim 26, wherein the notification means is an alarm.

15 28. The article of manufacture of Claim 25, further comprising means for generating a database of identified images.

29. A computer for communication with an electronic network, the computer comprising:

means for locating a second image from an electronic network;

means for determining selected characteristics of the second image;

5 means for comparing the selected characteristics of the second image with the selected characteristics of a first image; and

means for determining whether the first and second images are identical based upon the comparison of selected characteristics.

10 30. The computer of Claim 29 wherein the image characteristics are selected from the group consisting of image distribution characteristics, image usage characteristics, image distance characteristics, and image sizing characteristics.

31. The computer of Claim 29, further comprising means for storing identification
15 information of an image.

32. The computer of Claim 29, wherein the means for determining whether the first and second images are identical further comprises means for comparing at least one predetermined criterion.

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33. A method for retrieving image information from an electronic network, comprising the steps of:

using a search software application to locate at least a second image from the electronic network;

5 determining selected characteristics of the second image to identify the second image; and comparing the selected characteristics of the second image with selected characteristics of a first image;

wherein if a predetermined set of criteria is met, the second image is identical to the first image.

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34. The method of Claim 33, wherein the search software application is selected from the group consisting of search engines and spiders.

35. The method of Claim 33, wherein the search software application is adapted to

15 identify any located images.